THE BRITISH MEDICAL ASSOCIATION AT SHEFFIELD.

A VERY successful general meeting of the British Medical Association was held at Sheffield last week, when, under the most agreeable conditions, a considerable amount of valuable work was accomplished by the association.

While there was no dramatic announcement of any epoch-making discovery, or the, often premature, propounding of a theory—such as that relating to the non-transmissibility of bovine tuberculosis to man—which time would fail to substantiate, yet many subjects were discussed of both theoretical and practical interest to the general public.

Among others may be mentioned the problem of infection by typhoid carriers, which was considered in two able and interesting papers by Dr. Ledingham and by Drs. Davies and Walker Hall.

It has been recognised for some time past that the *Bacillus typhosus*—latent yet virulent—may exist in the human organism for years after the acute attack has subsided. Still earlier was the bacillus of diphtheria, in like case, tried and found guilty. Mysterious epidemics, which could not be traced either to direct contact or to infected clothing or towels, or to the milk supply, broke out from time to time in various places. Famous among such epidemics was that which occurred at the Charité Hospital in Berlin, when, by a process of elimination, the responsibility was at last found to rest with a nursing sister, who, without exhibiting any of the signs of diphtheria, was found to harbour the virulent germs in her throat. A small dose of antitoxin was administered, the ordinary precautionary measures were taken, and the epidemic ceased.

Unfortunately, in the case of typhoid, the matter is not so simple. In the first place, the isolation of the *B. typhosus* from the stools—when the systematic examination of many suspects is in question—is a far more arduous undertaking than the technique involved in the search for the *B. diphtheriae* in the fauces. Further, as pointed out by Dr. Walker Hall—and by others before him—the excretion of the bacillus by the carrier is intermittent, and it may therefore be missed unless numerous and systematic examinations be made extending over a period of many months. Even when found, the danger to be feared from the carrier as a focus of infection is not entirely averted, as, up to the present, we have no really trustworthy method of destroying the organism *in situ*.

Dr. Ledingham rightly laid great stress upon the incidence of gall-stone disease in a carrier. The proportion of female to male carriers is three to one—figures which exactly coincide with those appertaining to gall-stone disease; again, only 10 per cent. of the subjects of gall-stone disease show any symptoms, while, curiously enough, 10 per cent. of chronic carriers show symptoms of gall-stone disease.

In view of the above, and of the fact that the *B. typhosus* has been isolated from the gall bladder and stones of such cases, any symptom of hepatic trouble in a typhoid convalescent—or even in a person known to have had typhoid previously—should be viewed with the gravest suspicion. This applies all the more strongly to those whose duties bring them into contact with the food supply of their *entourage*, as, for example, dairymaids, milk vendors, cooks, &c. In any attempt at prophylaxis, the difficulty lies in enforcing, over a sufficiently lengthy period, the necessary regulations. It is not yet known how long the infection of typhoid may remain latent, although the dogma has been enunciated, "once a carrier, always a carrier."

With regard to the periodicity, Dr. Walker Hall showed that a carrier, after remaining innocuous for many months, might suddenly again become infectious and spread the disease far and wide. This always occurred after an illness in which the patient showed diarrhœa and a rise in temperature and pulse rate. An examination of the blood at these times showed a pronounced increase in the number of mononuclear leucocytes, and this Dr. Walker Hall considered a most important diagnostic point, as a differential blood-count can be readily undertaken by the physician in attendance. The greatest number of cases resulting from this form of infection occurred in the warm weather, *i.e.* during the months of July, August, and September. It was suggested, in explanation, that it is during the warm weather that the typhoid organism develops most rapidly in milk; on the other hand, it was pointed out that the lactic acid bacilli are also more active then, and would thus tend to render the milk less suitable a pabulum for the bacillus of typhoid. In conclusion, Dr. Walker Hall presented the meeting with a copy of suggested instructions to typhoid convalescents, which were admirable in their lucidity and simplicity; the only criticism which suggests itself is that he should specify the disinfectant solutions to be used.

In the section of pathology, the mornings of Wednesday and Thursday were occupied with a discussion on cerebrospinal meningitis. From a practical point of view, the most interesting communications were those relative to the brilliant results obtained by serum treatment; from being almost a hopelessly incurable disease, "spotted fever" may now be regarded as giving a most hopeful prognosis, in view of the reduction in the mortality rate from more than 80 per cent. to between 30 per cent. and 40 per cent.

In the section of dermatology, an intensely interesting discourse was given by Prof. Neisser, of Berlin, in which he communicated the results of his work on the experimental inoculation and treatment of syphilis. The experiments, which were carried out on anthropoid apes in Java, extended over a period of more than three years; the magnitude of the work may be imagined from the fact that from 600 to 800 animals were always under observation. Prof. Neisser's results go far to confirm the dicta already promulgated by Metchnikoff and others, namely, the importance of the prophylactic inunction of a $33\frac{1}{2}$ per cent. calomel ointment at the site of inoculation. Washing with sublimate solution 2 : 1000 and 3 : 1000 also gave good results. The necessity of energetic and prolonged mercurial treatment was insisted upon, or, better still, the chronic intermittent treatment by the combined application of atoxyl—or Ehrlich's arsacetin—and iodine, as well as mercury. The minimum period over which the treatment should be continued was given as four years. In this connection we may notice also the excellent collection of microscopical and lantern slides, demonstrating the presence of the *Spirochaeta pallida* in syphilitic lesions, which were exhibited by Dr. Mackenzie in the section of pathology.

An important discussion took place on Thursday morning in the industrial diseases section, with regard to the relation of pneumoconiosis to phthisis. Although Sheffield, as the great centre in England of the "dusty trades," furnished the greatest number of examples, the questions raised apply equally to all towns where a large number of workmen are subject to the deleterious effects of inhaled dust. Statistics show that in Sheffield the mortality rate from phthisis of adult males engaged in "dusty trades" is five times greater than the average for the rest of England. As pointed out by Mr. Edmund Owen in his popular lecture, the process known as "dry grinding" is responsible in great part for this excessive mortality. In the old days, grinding sheds were placed along the banks of the Don for the sake of the wheel power; plenty of water was at hand, and it was made to drip upon the wheels. With the advent of steam power the old riverside sheds were abandoned, over-crowded, dusty, and ill-ventilated factories took the place of the breezy sheds, and the men became too busy to water their wheels. It is, moreover, asserted that "dry grinding" is more efficient than "wet grinding." However this may be, the introduction of the new process resulted in a startling increase in the mortality rate from phthisis.

It was pointed out that the quality of the dust inhaled is a determining factor of no small importance in the causation of tuberculosis; the more irritating the particles the more dangerous the dust. Colliers, for instance, are particularly subject to anthracosis, and yet the death-rate from phthisis among them is not abnormally high. The first effect of inhaling "grinder's dust" is to produce rhinitis, followed by erosions of the mucous membrane and septal ulcers. This, again, is followed by atrophy of

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the Schneiderian membrane, and loss of smell. As the process descends, first irritation and then atrophy of the mucous membrane of the pharynx and larynx occur. At this stage the cough induced by the irritating particles becomes "dry" and useless; the entrance of dust into the lungs being thus facilitated, nodules of dust-filled, inflammatory infiltration are formed, which break down and provide a nidus for the tubercle bacillus.

A further argument against the dry-grinding process was brought forward by Dr. Barnes (of Sheffield). He maintained that the great susceptibility of grinders to tuberculosis was due to the fact that the dust amongst which they worked aided in the dissemination of the tubercle bacillus by inducing the rapid drying of the sputum. He pointed out that, whereas now a tuberculous worker spits upon a dusty floor, in the old days he spat into a trough containing water. The speaker, in effect, insisted that "grinder's disease" was pure tuberculosis and not pneumoconiosis, and called upon the contents of the pathological museum to substantiate his contention.

We were surprised to notice that no mention was made of the growing belief that tubercular infection of the lung takes place *viâ* the alimentary canal. Even in the case of the Sheffield grinder this theory would not be antagonistic to the general principles which we know to lie at the root of all systematic infections. It is well known that an infection, no matter how introduced into the system, will always seek out a *locus minoris resistentiae*; in this case it would be a lung weakened by pneumoconiosis. It is now universally recognised that the prognosis in tubercular disease is very largely dependent upon early diagnosis. In a disease such as pneumoconiosis, which so closely resembles tubercle in its clinical signs and symptoms, we were rather surprised that some form of easily applied tuberculin diagnosis—such as Calmette's ophthalmo-reaction—was not mentioned as having been tried, at least to any extent.

The Pathological Museum presented a mass of excessively interesting material, the specimens being, however, for the most part of interest rather to the specialist than to the general public. Among the exhibits having a somewhat wider interest may be mentioned the sections of Egyptian mummy organs shown by Dr. Armand Ruffer. The sections were taken from the mummy of a priest of Amen, and in spite of the fact that the material was at least 2400 years old, the microscopical structure was surprising in its detail and perfection.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

LONDON.—In the faculty of engineering at University College, London, a new lectureship in electrical design has been instituted, and Mr. H. M. Hobart has been appointed thereto. By the assistance of a committee of former engineering students and of other friends of the college, the new laboratories and extensions of the departments of the faculty of engineering, which were opened by the Chancellor, Lord Rosebery, last March, will be further equipped during the present long vacation. The new equipment will include a new boiler in the department of mechanical engineering, a steam turbine, and hydraulic apparatus, and equipment for research in metallography and radio-telegraphy. The facilities for advanced and post-graduate students, as well as for undergraduate students, will thus be considerably increased.

SHEFFIELD.—Dr. Ralph P. Williams has been appointed to the professorship of public health rendered vacant by the resignation of Dr. Harold Scurfield.

By the will of the late Dr. H. J. Hunter, the residue of his property, which will, apparently, amount to between 15,000*l.* and 20,000*l.*, is bequeathed to the University.

AN anonymous gift of half a million kronen (about 20,833*l.*) has been made to the Vienna Academy of Sciences for the establishment of a "Radium Institute" in connection with the new physics laboratories of the University of Vienna.

AN interesting proof of the efficiency of mathematical teaching in Poland in the seventeenth century is afforded by M. H. Merczyng's paper on a mathematical text-book for Polish students under Sigismund III., published in the Bulletin of the Cracow Academy, part x. (1907), recently received. The book in question is a treatise on arithmetic and geometry by Joachim Stegman, who about the year 1630 was principal and professor of mathematics in the gymnasium of Rakow. This school was founded by Polish unitarians, but was attended by pupils of all creeds numbering up to 1000, and existed from 1602 to 1638. The writer of the present notice applies the English expression "up-to-date" to the contents of the book in relation to the times in which it was published. The paper is illustrated by reproductions of the title-page, a drawing of the pantograph, anticipating by three years the previous records of its discovery by Scheiner, and a diagram for the solution of trigonometric problems, as we should say in "modern" examination papers, "by drawing and measurement."

THE report of the departmental committee appointed by the Board of Agriculture and Fisheries to inquire into and report upon agricultural education in England and Wales has been published as a Blue-book (Cd. 4206). The committee of twelve included Lord Reay (chairman) and Profs. T. H. Middleton and William Somerville. All institutions in receipt of grants from the Board of Agriculture were invited to submit evidence, witnesses from numerous institutions not in receipt of such grants were examined, and witnesses also attended from county councils, agricultural and other associations, in addition to those from Government departments at home and in the colonies. The total number of persons attending to give evidence was 113. It is impossible in a note to deal fully with the conclusions and recommendations of the committee, but one result arrived at is that there is no doubt that, by a general adoption of scientific methods, an important development could be effected in every branch of agriculture and in the various rural industries subsidiary to it. It is urged that a complete system of technical agricultural education is the natural corollary to the vast sums spent on elementary education in the rural parts of the country. The committee is of opinion that it will be possible to build up in England and Wales, at no excessive cost and within a reasonable time, a system of scientific and practical agricultural education equal, if not superior, to that now existing in any other country.

THE Lancashire Education Committee maintains a flourishing agricultural department. We have received an illustrated account of the scheme of agricultural education which has been devised for the county and is carried out at the County Council Farm, Hutton, the County Council Agricultural School, Harris Institute, Preston, and in various parts of the county. The county farm consists of 157½ acres, and in connection with it are permanent dairy and poultry schools, with a chemical and bacterial laboratory. Manurial, feeding, and other experiments are conducted at the farm. The object of the agricultural school at Preston is to prepare young men and women for the work of a farmer's life by instructing them in the principles which underlie farming operations, and demonstrating modern and scientific methods of agriculture. A county staff of lecturers in agriculture, horticulture, butter-making, cheese-making, and poultry keeping is, so far as practicable, placed at the disposal of local education committees, agricultural societies, and farmers' or horticultural associations. Numerous farmers' bulletins have been issued, advice is given to farmers with respect to farming operations and agricultural experiments, and analyses of manures, feeding stuffs, soils, waters, and dairy produce are made at low fees for the farmers of the county. In these and other directions the Lancashire Agricultural Department is doing much to encourage and develop scientific agriculture.

THE regulations (Cd. 4187) for technical schools, schools of art, and other forms of provision of education other than elementary in England and Wales for the year 1908–9 have been issued by the Board of Education. There are not many changes, and those introduced are in the direction of greater efficiency and more elasticity. The

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